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ABSTRACT

It is argued that the sexes get different feedback from the culture, and from teachers in particular. The hypothesis is explored that teachers are less responsive to and interested in girls than boys, and that the feminine strategy of withdrawal and avoidance of assertiveness develops in response to these teacher behaviors. Subjects were eight first graders and eight fifth graders, half boys and half girls. The mean number of hours of observation per subject was 9.5. Results indicate a growing differentiation among children by sex and achievement grade as they go from grade one to grade five. Although, as expected, decreased participation among girls was found, the attempt to find teacher behaviors that would shape decreased participation was unsuccessful. (Author/HMO)

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Sex Differences in Classroom Participation

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The subject of sex differences in behavior has received a good deal of attention. Speculation centers on the degree to which differences are innate or socialized, and on how socialization of sex differences takes place. This study will focus on particular aspects of the socialization of sex differences as they occur in the classroom.

Commenting upon the fact that females seem to feel unwarrentedly incapable in achievement situations, while males do not, Virginia Crandall asked,

> Do the sexes get different feedback from the culture? Girls, if anything, get more positive feedback, at least in the form of grades in the early school years. Nevertheless, from these grades as well as other behaviors, perhaps parents and other socializing agents give more praise to boys, more criticism to girls for their intellectual performance. Or perhaps they hold higher standards for girls, making it harder for girls to produce a product that will meet their approval.
>
> (Crandall, 1969)

There is a good deal of evidence that the sexes do indeed get different feedback from the culture, and from teachers in particular. I will briefly describe findings on differences in teacher attitude and behavior to boys and to girls. I will then discuss feminine reduced participation as a possible consequence of the different teacher behaviors and cite as suggestive evidence trends in the amount of teacher-child interaction from nursery school to later school years for boys and for girls. My thesis is that teachers are less responsive to and interested in girls than boys, and that the feminine strategy of withdrawal and avoidance of assertiveness (stereotyped in the culture and described as it occurs in classrooms by Lahaderne (1967) and Lahaderne and Jackson (1970) develops in response to these teacher behaviors.

Most data on differing teacher treatment of boys and girls has led to the conclusion that boys have a harder time in school than do girls. This is especially true of data regarding criticism for behavior. Meyer and Thompson (1956) found that boys in sixth grade received reliably more disapproval from their teachers than do girls. Spaulding (1963) discovered from observational data that boys receive

significantly more behavioral criticism than do girls. This finding was supported in a study by Jackson and Lahaderne (1970) who found that, as a group, "boys have eight or ten times more trouble than do their female classmates", and concluded that "the experience of going to school is clearly very different for boys than for girls".

Studies of teachers' attitudes toward individual students done by Silberman (1968) and Jackson, Silberman, and Wolfson (1969) found teachers to be more rejecting of boys and to include more negative statements in their descriptions of boys. Happel (1971) found that boys receive more than four out of five of the personalized interferences from the teacher, and notes that, "When the teacher singles out a particular student for criticism or redirection, the odds are quite good that the student will be a boy." Berk (1969) was not surprised to find that boys in nursery school received a greater number of disciplinary actions from teachers than did girls, and raises the issue of the effect of frequent and long-term teacher disapproval on general adjustment of boys in school." Brophy and Good (1970) in their study of first grade, found boys to have significantly greater numbers of teacher afforded behavioral criticisms.

There is little doubt that boys receive a great deal more criticism from teachers about their behavior than do girls. While one might conclude from this evidence that teachers are less favorably disposed toward boys and more inclined to favor girls, other evidence suggests that this is far from true, especially when one looks at some variables more relevant to Crandall's question regarding sex differences in adult behaviors related to the child's intellectual rather than behavioral participation in the classroom. It then becomes clear that it is only the misbehavior of males that evokes disproportionate criticism. In matters of achievement, it is females who are more likely to be criticized or unrewarded.

Davis and Slobodian (1969) noting the general consensus that boys are discriminated against by teachers, investigated this matter by making observations in a first grade reading group. They report, "Teachers were not found to call on girls more and boys less frequently, or to direct more negative comments toward boys during reading instruction. Teacher, further, did not treat (accept, reject, ignore) boys responses

differently than girls".

Some of the studies cited above for their information on behavioral criticism yield additional information on sex differences in teacher treatment of achievement related behaviors. In the area of reinforcement, Spaulding, who found that boys receive more behavioral criticism than do girls, found also that in general boys receive both more disapproval and more approval. There was more disapproval of boys regarding violation of rules, but more disapproval of girls regarding lack of knowledge and skill. This is an important finding because it is specific to the achievement area and seem to support Crandall's speculation that girls receive more criticism and less praise for their achievement efforts. Meyer and Thompson, whose data supported their hypothesis that boys would receive more teacher initiated disapproval contacts, also found, contrary to their expectations, that boys also received more praise contacts. Brophy and Good found a significant difference in percent of correct answers followed by teacher praise, with girls receiving a significantly lower percentage of such feedback. (A "compensatory" explanation would seen to be refuted by the fact that boys also had a total of more correct answers.)

These findings, picked out of a number of studies, suggests that girls are attended to and reinforced less often than are boys in the elementary years. They are the objects of less concern and attachement from the teacher. However, there is a clear need for further research in this area if the matter is to be adequately understood. Special attention must be paid to the achievement, rather than the behavioral area, and similar methodology must be used across grades. Brophy and Good have confined their work to first grade classrooms, which they assert may be a special situation having heavy emphasis on learning basic skills. If the findings of Brophy and Good and the other studies cited do indeed form part of a comprehensive pattern of inattention to girls in the classroom, a consequence might well be that a good part of the socialization of girls to the non-assertive feminine role takes place in the elementary school. A likely result of teacher non-responsiveness to girls attempts to participate, relative to the response and reinforcement given boys, is that this behavior will be extinguished.

Girls will learn that seeking to interact with the teacher is not rewarded, even with attention, and will withdraw from the competitive arena. Furthermore, the cycle is likely to be self-perpetuating; the less interaction girls have with the teacher and the less they participate in the public classroom arena, the less they will develop skill and comfort that would encourage them to seek continued experiences of this sort.

Such withdrawal of girls from classroom participation has been described by Lahaderne and Jackson (1970). They found that such withdrawal (fewer self-initiated interactions, fewer instructional interactions, and more inattentiveness) to be associated in girls, but not in boys, with high scores on the Children's Social Desirability Questionnaire, a measure of concern about what others think of onesself. The CSD correlated negatively with IQ for girls only. The authors suggest that there are two major strategies available to the child who wishes the good opinion of others: to win approval (an approach strategy) or to avoid disapproval (an avoidance strategy). They suggest that the high CSD scoring girls have chosen the avoidance strategy, which is in keeping with the cultural norms for feminine behavior. I suggest that the choice of such a strategy results from having received a disproprotionate (relative to boys) share of lack of attention and approval for their attempts to win approval via an approach strategy.

There is also some limited evidence that a trend toward decreased oral participation in classrooms exists in girls, at least from nursery school through the early school years. However, studies that would provide such evidence have used somewhat inconsistent methodology (Biber et al 1972; Brophy and Good, 1970; Beck, 1969; Happel, 1971), so it is difficult to assess the developmental direction of sex differences. In order to confirm the pattern a study using consistent methodology across grades is required.

Questions to be investigated

This pilot study was directed toward answering two main questions:

1. Are girls more likely to exhibit a trend toward avoiding interaction with the teacher as they progress through the primary grades than are boys?

2. Are primary teachers less likely to attend to, seek to interact with, and to reinforce the participation of girls?

Since some research (Lahaderne, Lahaderne and Jackson, Brophy and Good) has suggested

that participation and teacher treatment may operate differently for children of each sex who are achieving well and those who are not, the dimension of achievement as well as sex was included in the investigation of the two questions above.

Method:

Sixteen children served as subejcts, eight first graders and eight 5th graders from a suburban school system. Eight subjects were selected from each classroom, half boys and half girls. Half of the subjects of each sex were selected as high achievers and half as low achievers. Observations were conducted during the late fall, and the eight subjects in each class were observed at one time, using a modified version of the Brophy and Good (1970a) scale, for such variables as handraises, answers given, and teacher response.

I used a sheet (see appendix) on which I recorded information about the class and the interactions I observed. The classification system described next was marked on this sheet, which was modeled after the data recording form used by Brophy and Good. When I observed an initiation by one of my sample children, or directed to one of these children by the teacher, I noted the child's initials or code number under the appropriate initiation column, and checked the context in which it occurred. If the attempt was unnoticed (such as a hand rasie not called on) this was the only notation of the attempt. If, however, the initiation resuled in an interaction, other features of the interaction were noted along the same row as the child's number.

Mean number of hours of observation per subject was 9.5. Due to the small sample size, data analysis was limited to the comparison of means in order to determine if significant differences in behaviors occurred when comparing groups of interest. Means were computed for all variable, and comparisons made (standard deviations and t-tests computed) for those that appeared to be possibly significant.

Results- Differences Between Groups

Between Grades

It is not surprising that participation patterns differ between the first and fifth grades (shown on Table 1). Although the total number of contacts for the similar time

period was much the same, the way these interactions were initiated differed, with the first graders having significantly more contacts themselves. Part of the difference in the number of teacher afforded contacts between the grades is due to the first graders having received significantly more negative comments on their behavior than did the fifth graders.

The variables that would indicate differences in shaping aparticipation do not show significant grade effects. Both grades are called on about the same number of times, considering the number of handraises. It is interesting to note, however, that the first graders get more negative than positive feedback, while the reverse is true for the fifth graders. This was due largely to the more frequent discussion of answers (a positive feedback) in the fifth grade; the answers were generally more complex and often had some principle involved that warrented the teacher's discussion, in contrast to the more frequent "know it or don't know it" answers of the first graders.

Sex Differences

No sex differences, either in child participation or in shaping variables, proved significant (see Table 2). However, there is a clearly emerging pattern in the direction of means for child participation. The most significant feature is that girls have consistently fewer overall contacts with their teachers than do boys, this difference growing from first to fifth grades. First grade girls have the same number of contacts resulting from handraises as do their male peers. Although they raise their hands less often, the teacher calls on more of their handraises. They have fewer teacher afford contacts and fewer child initiated dyadic interacts than do boys.

The difference between girls and boys in numbers of total contacts grows from the first to the fifth grade. Boys now have more contacts from handraises, and are ahead by a larger margin in contacts from child initiated dyadic interactions. However, girls now have more contacts initiated by the teacher than do boys, perhaps an effort by the teacher at equalizing participation. The difference between mean handraises by the sexes increases from first to fifth grades, with girls also becoming more reluctant, by fifth grade, than boys, to answer a self-reference question. However, it is in child

initiated dyads that girls are consistently low.

Looking for causes for this progressively decreasing participation by girls in shaping variables, the only clue is that girls have fewer right answers than boys, and more wrong answers. This trend grows from first to fifth grade. Looking at teacher feedback, however, the girls are favored in first grade and are not very different from boys in fifth grade. Teacher call-on ratios are also similar.

Achievement Group Differences

If all high achievement children are compared with all low achievement children, the highs are slightly ahead in total number of contacts with their teacher (see Table 3). In the first grade, the low achievement children are ahead, due partly to their higher number of disciplinary contacts, but by the fifth grade the highs are ahead. In both grades the lows have fewer handraises and fewer contacts resulting from handraises, this tendency becoming much more accentuated in fifth grade.

The groups are about equal in numbers of teacher afforded contacts, but the lows consistently and increasingly seek out dyadic contacts with the teacher. Teachers less often call on a low achievement child when they are calling on a non-volunteer, probably because they suspect he will be less likley to answer the question correctly. Low achievement children answer as many or more self-reference questions as do highs, a frequency that is unexpectedly high when compared to their low number of overall public responses. This would be a reasonable strategy for an assertive child who wished public visibility without the risk of failure. Unlike girls, low achievement children do not show evidence of a pattern of decreased assertiveness in seeking participation; rather, they choose public participation when they need not risk giving a wrong answer.

It must be noted, however, that a higher number of child initiated dyadic interactions might reasonably be expected for low achievement children, since they require individual help in understanding assignments more frequently. Brophy and Good's finding that low achievement children have fewer such interactions may be due to the discouraging of such participation by their teachers.

The low achievement children had fewer right and fewer wrong answers than the high children, with the proportion of right to wrong answers similar for both. There was, however, a significant difference in the nubmer of right answers between low and high achievement fifth graders. Interestingly, the low achievement children had a greater proportion of negative feedback than did the high achievement children. They were called on for slightly more of their handraises in first grade but for slightly fewer of their handraises in fifth grade, despite the fact that they raised their hands fewer times.

Differences between groups formed by sex and achievement

In order to determine if, as Lahaderne suggested, each sex finds its own way of coping with its achievement level, an examination was made of the interaction of sex and achievemnt (see Table 4). The results disagreed with her findings that lower achievement girls were more withdrawn, but were quite interesting. The data showed low achivement girls and low achievement boys to look much alike, with the girls favored in most measures. Striking sex differences appeared in comparisons between high achievement boys and high achievement girls, with the difference between the number of total contacts for these groups being significant. Indeed, high achievement girls have more wrong answers than any other group. They also have fewer child initiated dyadic contacts, fewer teacher afforded contacts, and no disciplinary contacts. Their low numbers of child initiated contacts is striking; while one might expect low achievement children to more frequently seek the teacher's help, high achievement boys seek to interact with her as well, but not high achievement girls. High achievement girls give more wrong answers, fewer right answers, fewer handraises, and fewer contacts from handraises than do high achievement boys, while low achievement girls have higher teacher call-on ratios than high achievement boys, despite their less frequent handraises.

Discussion

This study was directed toward answering two main questions:

1. Are girls more likely to exhibit a trend toward avoding interaction with the teachers as they progress through the primary grades than are boys?

2. Are primary teachers less likely to attend to, seek to interact with, and reinforce the participation of girls?

The data collected indicate that the first question can be answered affirmatively while the second cannot.

The results of this study point to a growing differentiation among children by sex and achievement groups as they go from grade 1 to grade 5. Low achievement children adopt a strategy of avoiding situations in which public evaluation of their contribution will be made, seeking rather to answer questions that have no right answer or to have private dyadic interactions with the teacher. They did not withdraw from participation in general as did girls, who, in contrast, came to have fewer of all kinds of interactions except those in which the teacher seeks them out for an interaction. Girls especially withdraw from seeking dyadic interactions with the teacher. High achievement girls are an especially anomaly in these findings. Nowhere near as assertive and interactive as the high achievement boys, they are, on many interaction measures, the lowest of the groups.

Although, as expected, decreased participation among girls was found, the attempt to find teacher behaviors that would shape decreased participation was unsuccessful. Indeed, teachers seemed to be favoring girls in their affording of interactions. The only shaping variable that consistently differentiated girls from boys in a way that might lead girls to interact less, was that girls had fewer right answers and more wrong answers than did boys. This might be due to harder questions, an unmatched sample, or to psychological differences in the girls (such as being more easily rattled by public participation or trying to play dumb.) The fact that the data did not show the expected teacher behaviors was quite surprising, and in contrast to the several studies cited at the beginning of this article.

The low interaction of the high girls as compared to the high boys was most interesting. Although no teacher shaping behaviors that would lead to this were evident, the social forces bearing on the high achievement population are inescapable. It is acceptable and desirable for both men and women to be competent workers in middle range

occupations, but the higher status and professional occupations have been traditionally largely occupied by men. Could these girls be yiedling to social pressure and "toning down" their public interactions? One would want to know whether they showed the same reluctance to participate in written work in class and if they had a lower quantity and quality of written contributions than their male counterparts.

A clear need in any further study would be, of course, to observe a larger number of children in a larger number of classrooms. In order to distinguish a trend, another grade sould be observed as well; and the third grade would be a good intermediate.

Both the difficulty of analysis of teacher feedback variables and their lack of significance suggests that further consideration be given to looking both for methoO dological refinements and for further clues to differential participation within children. The teachers did not seem to be biased in their behavior. Rather it was the students presenting different attempts to participate that seemed to account for the differences seen.

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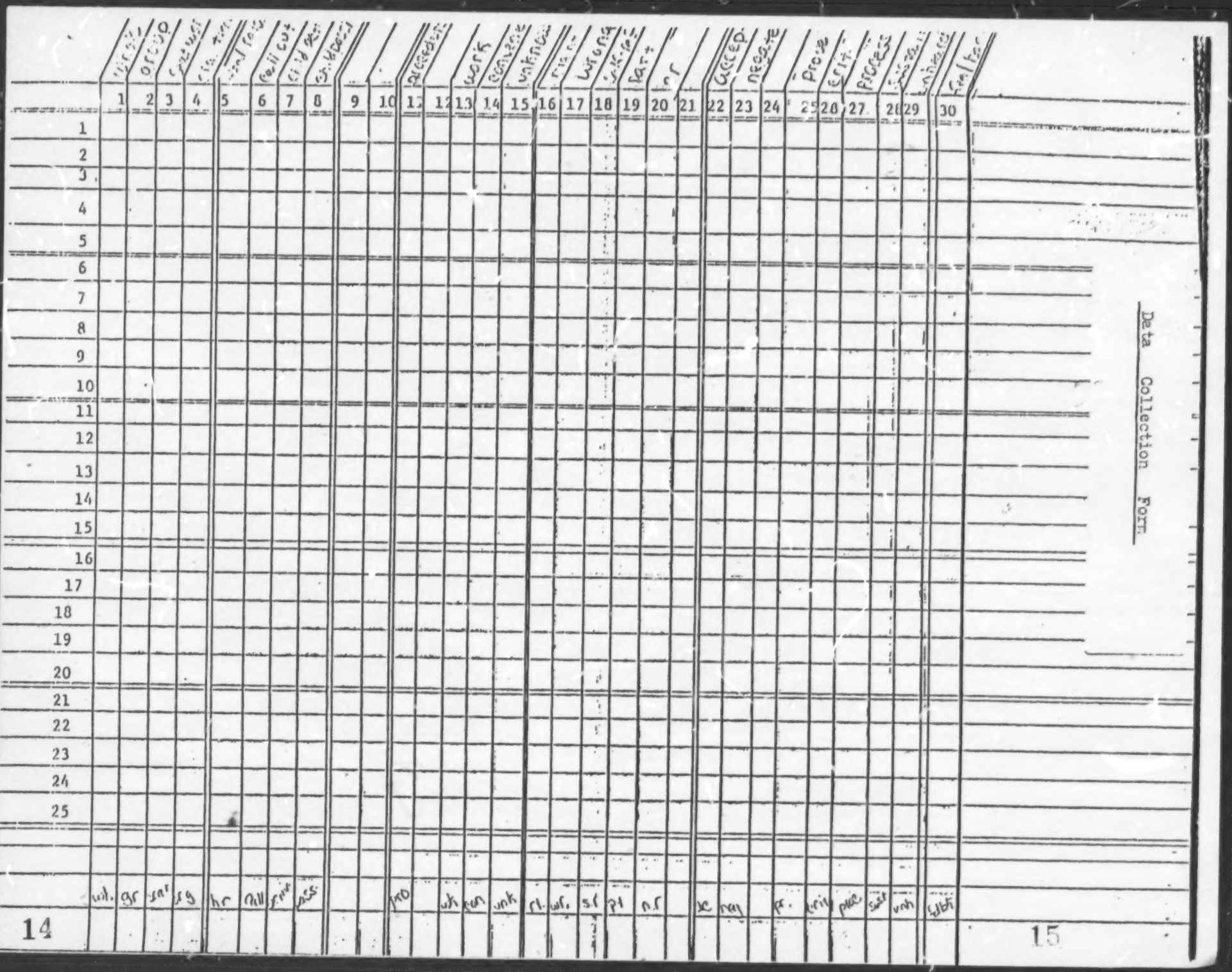
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Data Collection Form

TABLE 1
Mean Shaping and Participation Behaviors, Total and By Grade

	Total N=16	First Grade N=8		Fifth Grade N=8	
	Means	Means	S.D.	Means	S.D.
1. Total contacts	45.44	49.25	15.04	41.62	13.41
2. Contacts from handraise	14.31	14.0		14.62	
3. All handraises, whole class	26.5	18.62		34.37	
4. Child initiated dyads	13.5	8.5	5.83	18.5	7.93*
5. Attempted dyads overlooked by T.	1.06	.13		2.0	
6. Teacher aforded interactions, total dyads	17.63	26.75	8.08	8.5	3.36**
7. Teacher afforded behavior criticism	3.94	7.38	7.47	.5	.186*
8. Teacher afforded response opp.	2.63	3.38		1.88	
9. Teacher call-on ratio, total	.402	.439		.375	
10. Teacher call-on ratio, group	.417	.355		.567	
11. Teacher call-on ration, whole class	.398	.439		.349	
12. Self-reference answers	2.38	1.75		3.0	
13. Right answers	10.75	11.75		9.75	
14. Wrong answers	3.31	3.75		2.88	
15. Right/right + wrong	76%	76%		77%	
16. Positive fdbk.	2.94	1.88		4.01	
17. Negative fdbk.	2.81	3.13		2.51	
18. Pos/pos. + neg.	51%	38%		62%	
19. % contacts from handraises	31%	28%		35%	
20. % contacts from child init. dyads	30%	17%		44%	
21. % contacts teacher afforded	39%	54%		20%	

*p .05
**p .01

TABLE 2

Mean Shaping and Participation Behaviors, by Sex and Grade

	all girls n=8		all boys n=8		1st girls n=4		1st boys n=4		5th girls n=4		5th boys n=4	
	Means	S.D.	Means	S.D.	Means	S.D.	Means	S.D.	Means.	S.D.	Means	S.D.
1. Total contacts	40.5	11.27	50.38	12.25	45.5	19.80	53.0	10.18	35.5	9.59	47.5	15.47
2. Contacts from hand-raises	12.5	5.07	16.12	11.53	14.0		14.0		11.0	3.62	18.25	15.79
3. All handraises, whole class	22.25	13.95	30.75	19.59	15.75	9.86	21.5	9.99	28.75	15.74	40.0	2.39
4. Child initiated dyads	11.0	8.66	16.0	8.09	7.0	7.41	10.0	4.24	15.0	8.8	22.0	4.35
5. Attempted dyads overlooked by T.	.38		1.75		0		.25		.75		3.25	
6. Teacher afforded interactions, total	17.0		18.25		24.5	8.51	29.0	8.30	9.5		7.5	
7. Teacher afforded behavior criticism	2.25		5.63		4.0	6.74	10.75	7.42	.5		.5	
8. Teacher afforded response opp.	2.13		2.0		4.25		4.50		2.25		1.5	
9. Teacher call-on ratio, total	.388		.414		.436		.442		344		.397	
10. Teacher call-on ratio, group	.420		.413		.375		.342		.615		.541	
11. Teacher call on ratio, whole class	.376		.414		.492		.488		.313		.375	
12. Self-reference answers	2.0		2.75		2.0		1.5		2.0		4.0	
13. Right answers	9.25		12.25		11.5		12.0		7.0	5.9	12.5	11.81
14. Wrong answers	3.88		2.75		4.5		3.0		3.25		2.5	
15. Right/right + wrong	70%		82%		72%		80%		68%		83%	
16. Positive fdbk.	3.0		2.88		3.25		.5		2.75		5.25	
17. Negative fdbk.	2.5		3.13		2.75		3.5		2.25		2.75	
18. Pos/pos. + neg.	54%		48%		54%		13%		55%		65%	
19. % contacts from hand-raises	31%		32%		31%		26%		31%		38%	
20. % contacts from child init. dyads	27%		32%		15%		19%		42%		46%	
21. % contacts teacher afforded	42%		36%		54%		55%		27%		16%	

TABLE 3

Mean Grouping and Participation Behaviors, by Achievement and Grade

	all lows n=8		all highs n=8		1st lows n=4		1st highs n=4		5th lows n=4		5th highs n=4	
	Means	S.D.	Means	S.D.	Means	S.D.	Means	S.D.	Means	S.D.	Means	S.D.
1. Total contacts	44.75		46.12		51.25		47.25		38.25	11.1	45.0	16.0
2. Contacts from hand-raise	10.5	6.28	18.12	10.21	13.75		14.25		7.25	1.72	22.5	11.8
3. All handraises, whole class	19.0	8.75	34.0	20.35	14.25	6.99	23.0	10.47	23.75	8.49	45.0	36.8
4. Child initiated dyads	16.5	8.63	10.5	7.71	10.25		6.75		22.75	4.96	14.25	8.8
5. Attempted dyads overlooked by T.	1.12		1.0		.25		0		2.0		2.0	
6. Teacher afforded interactions, total	17.75		17.5		27.25		26.25		8.25		8.75	
7. Teacher afforded behavior criticism	5.75		2.12		10.75	7.91	4.0	6.16	.75		.25	
8. Teacher afforded response opp.	1.62		3.62		2.5		4.25		.75		3.0	
9. Teacher call-on ratio, total	.379		.417		.440		.439		.305		.405	
10. Teacher call-on ratio, group	.356		.470		.356		.355		0		.567	
11. Teacher call-on ratio, whole class	.382		.404		.526		.439		.305		.372	
12. Self-reference answers	2.5		2.25		2.0		1.5		3.0		3.0	
13. Right answers	6.62	5.52	14.87	7.46	10.0		13.5		3.25	2.88	16.25	8.5
14. Wrong answers	2.62		4.0		4.0		3.5		1.25		4.5	
15. Right/right + wrong	72%		79%		71%		79%		72%		78%	
16. Positive fdbk.	1.12		4.75		1.25		2.5		1.0		7.0	
17. Negative fdbk.	2.5		3.12		3.5		2.75		1.5		3.25	
18. Pos/pos. + neg.	31%		60%		26%		48%		40%		68%	
19. % contacts from hand-raises	23%		39%		27%		30%		19%		49%	
20. % contacts from child init. dyads	37%		23%		20%		14%		59%		32%	
21. % contacts teacher afforded	40%		38%		53%		56%		22%		19%	

*p .05

TABLE 4

Mean Shaping and Participation Behaviors, by Sex and Achievement

each group, N = 4	Low girls	Low boys	High girls Means	High girls S.D.	High boys Means	High boys S.D.
1. Total contacts	45.75	43.75	35.25	9.75	57.0	5.96*
2. Contacts from handraise	12.0	9.0	13.0	8.08	25.25	10.49
3. All handraises, whole class	18.0	20.0	26.5	18.13	41.5	22.26
4. Child initiated dyads	15.75	17.25	6.25	2.8	14.75	9.14
5. Attempted dyads overlooked by T.	.5	1.75	.25		1.75	
6. Teacher afforded interactions, total	18.0	17.5	16.0		19.0	
7. Teacher afforded behavior criticism	4.5	7.0	0		4.25	
8. Teacher afforded response opp.	2.25	1.0	4.25		3.0	
9. Teacher call-on ratio, total	.393	.364	.385		.439	
10. Teacher call-on ratio, group	.400	.263	.448		.487	
11. Teacher call-on ratio, whole class	.388	.388	.361		.427	
12. Self-reference answers	2.75	2.25	1.25		3.25	
13. Right answers	8.0	5.25	10.5	7.75	19.25	4.5
14. Wrong answers	3.0	2.25	4.75		3.25	
15. Right/right & wrng	72%	70%	68%		85%	
16. Positive FDBK.	1.75	.5	4.0		5.25	
17. Negative fdbk.	2.25	2.75	2.25		3.5	
18. Pos/pos.+neg.	44%	15%	64%		60%	
19. % contacts from handraises	26%	20%	37%		41%	
20. % contacts from child init. dyads	34%	39%	18%		26%	
21. % contacts teacher afforded	39%	40%	45%		33%	

* $p < .05$